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Brief Results of a Trawl Experimental Survey at NW Atlantic

by

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Abstract

An experimental survey was carried out in NAFO Regulatory Area (Div. 6EFGH and 4XWVs) and adjacent international Southern waters during last Quarter of year 2004, with one polyvalent Spanish trawler, using "Gloria" pelagic gear and bottom gear, with the aim to obtain data on distribution and biology on pelagic and demersal species in non-habitual grounds for the Spanish fleet. A scientific observer was on board to collect the information on fishing activity (effort, depth, etc.) and biological data (length distributions, length-weight relationships, etc.). A total of 119 hauls were carried out. Samplings were conducted in a wide geographical and bathymetrical range. During the survey, Alfonsino (*Beryx splendens*) was the main caught species.

Introduction

The aim of this trawl exploratory survey was to obtain data on distribution and biology on pelagic and demersal species in NAFO Southern Divisions, a non-habitual grounds for the Spanish fleet. The present working document summarizes the main preliminary brief results based on the data collected by the observer on board the vessel, in order to make it available to NAFO Scientific Council.

Materials and Methds

During last Quarter of year 2004, a two month experimental survey was carried out in NAFO Regulatory Area (Div. 6EFGH and 4XWVs) and adjacent international Southern waters, with one polyvalent Spanish trawler, using "Gloria" pelagic gear (60-135 mm cod end) and bottom gear (130 mm cod end). A scientific observer was on board. Among other information, location, time, depth, catch and discards were noted by the observer, haul by haul. Measurements by sex were taken at random. Biological samplings were made (stratified by length), according with IEO methods. A summary of the biological data collected is in Table 1.

Preliminary Results

During the survey a total of 119 hauls were carried out (76% of the trawling hours with pelagic gear and 24% with bottom gear). Sampling were conducted in a wide geographical and bathymetrical range (from 200 to 1 400 m). Alfonsino (*Beryx splendens*) was the main caught species (38% of the total catch for pelagic gear and 93% for bottom gear). Table 2 shows the effort by Division for the pelagic gear and for the bottom gear respectively, while Tables 3 and 4 presents the catches for the main species. Table 5 shows the length-weight relationships for the main species, following the model: [Weight (g) = a .Length (cm) ^{b}]. Figure 1 shows the length distributions for those species by gear. During the trip, by-catches of mammals, seabirds or other mega fauna did not take place. Table 6 summarised the observations on by-catches of sessile and low mobility benthic invertebrates. In other hand, lost pots

were caught in Div. 6G when fishing with bottom gear. This could indicate the existence of fishing activity in certain banks located in this Division.

TABLE 1. Number of samples, individuals and otoliths collect, by species.

Species	Length samples	Indiv.	Range (cm)	Biological samples	Indiv.	Otoliths
Beryx splendens	36	3,667	24-55	32	1,318	201
Epigonus telescopus	20	348	29-85	17	157	92
Polyprion americanus	16	24	78-140	16	24	13
Hyperoglyphe perciformis	13	357	27-97	8	124	-
Hoplosthethus mediterraneus	10	359	13-32	7	67	25
Schedophilus medusophagus	10	582	24-76	5	144	-
Aphanopus carbo	9	372	91-131	6	173	51
Coryphaenoides rupestris	7	36	10.5-27	6	29	23
Centrolophidae	5	115	31-68	1	17	-
Brama brama	4	11	20-60	4	11	-
Beryx decadactylus	3	4	66-72	3	4	4
Alepocephalus sp	2	20	37-80	2	20	-
Lampris guttatus	2	6	97-114	2	6	-
Cubiceps sp	1	6	43-47	1	6	-
Xiphias gladius	1	1	190	1	1	-
Pterycombus brama	1	12	25-37	-	-	-
Tarachthys longipinnis	1	1	71	1	1	-
Masturus lanceolatus	1	1	88	1	1	-

TABLE 2.- Fishing effort in hours trawling by Division and gear. Preliminary.

Division	Pelagic gear	Bottom gear
4Vs	55.00	-
4W	12.80	-
4X	15.60	-
6E	62.70	2.08
6F	52.40	3.17
6G	74.50	104.25
6H	27.50	-
South NAFO	48.20	-
TOTAL	348.60	109.50
% hours by gear	76%	24%

TABLE 3.- Bottom gear: Total catch (kg) for the main species by Division. Preliminary.

Species	6E	6F	6G
Alfonsino	-	-	414,811
Cardinal fish	-	-	12,338
Black scabbardfish	-	-	9,273

TABLE 4.- Pelagic gear: Total catch (kg) for the main species by Division. Preliminary.

Species	4Vs	4W	4X	6E	6F	6G	6H	South NAFO
Alfonsino	0.1	-	0.1	0.5	1.7	2,476.0	0.3	2.9
Lanternfishes	0.2	3.5	-	9.1	37.0	230.0	70.0	118.0
Deep-sea hooked squid	-	-	-	30.0	30.0	200.0	55.0	145.0

TABLE 5. Length-weight relationship parameters for the main species. Preliminary.

Species	Sex	Indiv.	a	b	R^2	Range (cm)	Range (g)
Alfonsino	Males	636	0.0131	2.9759	0.9522	23-55	150-1,820
	Females	608	0.0104	3.0399	0.957	24-61	130-3,270
	Combined	1277	0.017	2.9068	0.9863	10-61	14.6-3,270
Cardinal fish	Males	113	0.0102	3.0269	0.9869	29-78	260-5,500
	Females	43	0.0108	3.011	0.9882	30-85	290-6,800
	Combined	156	0.0105	3.0184	0.9879	29-85	260-6,800
Black scabbardfish	Males	30	0.0007	3.1522	0.8502	88-128	990-2,960
	Females	102	0.0027	2.8639	0.7623	102-131	1,350-3,460
	Combined	173	0.0018	2.9499	0.7941	88-131	990-3,460

TABLE 6.- No of hauls with presence of sessile and low mobility benthic invertebrates in the catches (Bottom gear) by Division. Preliminary.

Organism	6E	6F	6G
Anthozoa	1	2	4
Echinodermata	1	2	2
Porifera	1	0	7
Polychaeta	1	2	0

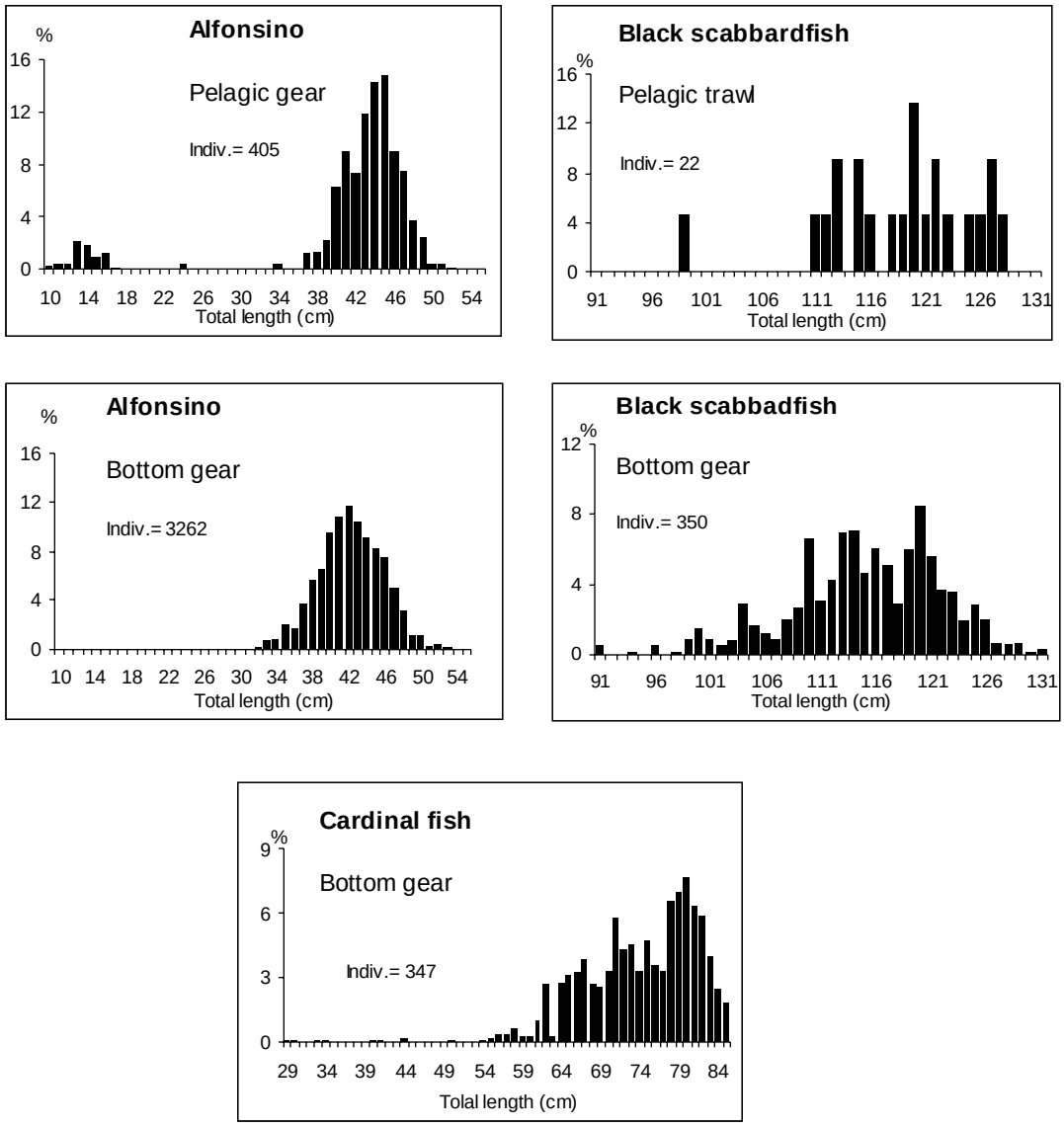

Fig. 1. Length distributions for the main fish species by gear. Preliminary.